

Remarks

Applicants kindly thank the Examiner for generously taking time to answer questions asked by Applicants' representatives' in a telephone interview on October 3.

Upon entry of the foregoing amendment, claims 1-10 are pending in the application, with 1 and 6 being the independent claims. Claim 3 is sought to be cancelled without prejudice to or disclaimer of the subject matter therein. This amendment includes changes discussed in the telephone interview. These changes are believed to introduce no new matter, and their entry is respectfully requested.

Based on the above amendment and the following remarks, Applicants respectfully request that the Examiner reconsider all outstanding objections and rejections and that they be withdrawn.

Rejections Under 35 U.S.C. § 103

Claims 1 and 3-5 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Abbott et al. (US Patent No. 4,328,577) in view of Sebaa et al. (WESCON/94. 'Idea/Microelectronics'. Conference). Claim 2 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Abbott et al. in view of Sebaa et al. as applied to claim 1 above, and further in view of Mann et al. (US Patent Application Publication 2001/0013104). Claims 6-9 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Aagaard et al. (US Patent No 3,928,730) in view of Abbott et al. and Sebaa et al. Applicants respectfully traverse the rejection of claims 1-9.

Applicants respectfully submit that the various combined teachings of Abbott, Sebaa, Mann, and Aagaard fail to teach or suggest the claimed invention. For example,

the combination of references fails to teach or suggest an apparatus comprising, *inter alia*, a switching device that includes only one testing output data path dynamically configurable to couple to only one of the primary data-paths, wherein the one testing output data-path is dedicated to cyclic redundancy checksum (CRC) output data, as recited in claim 1. Similar features are also recited in claim 6. These features are illustrated, for example, in FIGs. 1 and 2 and paragraph [0019] of Applicants' disclosure.

Applicants' novel and non-obvious invention provides only one testing output data-path which is *dynamically configurable* to couple to only one of the primary-data paths. By contrast, Abbott does not teach or suggest that a single output data-path can be configured dynamically. Abbot teaches that the monitor 800, which the Office Action equates to Applicants' testing output data path, "automatically adjusts to test data paths through added groups and to ignore data paths through removed groups" (col. 1, lines 20-22). However, Abbott recites that the "general operation" of the its monitor 800 is that "[t]he monitor repeatedly tests, one at a time, each of the signal paths in the multiplexers and demultiplexers" (col. 3, lines 44-46). Abbott teaches testing each path in the static pattern of one at a time. Abbot does not teach a data path that is dynamically configurable, or that can be configured during operation, without interruption, to test any of the video sources or destination devices in any order or configuration.

Such flexibility is more appropriate and necessary as appreciated by one skilled in the art of testing multiple video sources on an integrated circuit whereas testing one line at a time in a static configuration is more appropriate for adding and removing trunks of T1 and T2 lines. Accordingly, there is no reason for Abbot to teach or suggest that a dynamically configurable output data path is desirable.

Second, Applicants' invention provides that the one testing output data-path is dedicated to cyclic redundancy checksum (CRC) output data. This teaching not present in Abbot or Sebaa. The Office Action recites that "Abbot et al. do not teach that the permitted analysis is based only on data received at the testing output port through the only data path" or "a cyclic redundancy checksum (CRC) port" (Office Action of May 25, page 3). The Office Action recites that "Sebaa et al. teach CRC analysis in a test answer evaluator, which is based only on data received at the output ..." (Office Action, page 3).

However, Sebaa does not teach a testing output data path dedicated to CRC output data. In fact, Sebaa's TPG/TAE block, which can be reconfigured as a CRC signature analysis register, serves "multiple purposes" (p. 543, Section 2). Such multiple purposes include acting as a linear feedback shift register, stimulating the on-chip data-path, and generating test patterns (p. 543, Section 2). Such multiple purposes teach away from the decreased complexity and cost of only a single testing output data-path dedicated to CRC analysis.

Furthermore, even assuming, *arguendo*, that when Sebaa's CRC mode is enabled, among many modes, it is dedicated to CRC analysis, the testing output data path is not dedicated to CRC output data. Sebaa's data paths are shared. In Figure 3 of Sebaa, the TPG/TAE block's data path is shared with the Video FIFO module. The TAE block shares data paths with the Video Logic, RAM, and DAC modules. Therefore, Sebaa does not teach a testing output data path dedicated to CRC output data, or in fact, that any of these data paths are dynamically configurable.

The Office Action rejects claim 6 under 35 U.S.C. 103(a) based on Aagaard et. al. in view of Abbott and Sebaa. Similar to the amendment and remarks of claim 1,

claim 6 also teaches one testing output data path dynamically configurable to permit monitoring wherein the one testing output data-path is dedicated to cyclic redundancy checksum (CRC) output data. Aagaard and Sebaa similarly fail to recite this teaching. Therefore, the combination of references suggested in the Office Action would not result in the present invention, as recited in claim 6.

In view of the above arguments, it is clear that claims 1 and 6 (the independent claims) would not have been rendered obvious by the suggested combinations to one of ordinary skill in the art at the time of the invention. Therefore, claims 1 and 6 are allowable under 35 U.S.C. § 103 as being patentable over Abbott, Sebaa, Mann, and Aagaard, either alone or in combination with one another.

Claims 2, 4 and 5 depend from claim 1 and claims 7-9 depend from claim 6. Claim 3 has been canceled. Therefore, claims 2, 4, 5 and 7-9 are allowable at least for the reasons claims 1 and 6 are allowable, and for the specific features recited therein.

Reconsideration and withdrawal of the rejection of claims 1, 2 and 4-9 is requested.

Allowable Subject Matter

The Office Action indicated that claim 10 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicants, however, choose not to rewrite claim 10 at this time.

Conclusion

All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. Applicants believe that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment and Reply is respectfully requested.

Respectfully submitted,

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